

17. (New) The roofing shingle of claim 6, where the shingle has one side that has been molded to simulate shake.

18. (New) The roofing shingle of claim 6, where the shingle has one side that has been molded to simulate slate.

### REMARKS

#### **A. Status of the Claims**

Claims 1-6 were examined and are pending. Claims 7-18 are added. A copy of claims 1-18, which will be pending upon entry of the added claims, is attached as Appendix A.

#### **B. Claims 1-6 Are Patentable over Bieser**

The Office rejects claims 1-6 as being anticipated by U.S. Patent No. 6,214,924 to Bieser et al. (Bieser). Applicant traverses.

##### **1. Claims 1-5**

Claim 1 is limited to a composite roofing shingle that comprises a mixture of about 36 to 64% polymer and about 36 to 64% filler. Bieser discloses the following ranges of homogeneous ethylene/ $\alpha$ -olefin interpolymer:

1. at least about 5 to no more than about 70%,
2. at least about 5 to preferably no more than about 50%,
3. at least about 5 to more preferably no more than about 30%,
4. preferably at least about 10 to no more than about 70%,
5. preferably at least about 10 to preferably no more than about 50%, and
6. preferably at least about 10 to more preferably no more than about 30%. Col. 7, line 63 to col. 8, line 7.

The third and sixth ranges fall completely outside of the claimed range of polymer. Thus, they do not anticipate the claimed polymer range. The endpoints of the first and fourth ranges completely overlap and fall outside the endpoints of the claimed range. Therefore, these ranges do not anticipate because a genus cannot anticipate a species.

The second and fifth ranges only overlap a portion of the claimed range. Furthermore, none of the 33 listed examples disclose a polymer falling within the claimed range. Instead, the examples all disclose a polymer that is only 15% by weight or less of the experimental composition. The MPEP states:

When the prior art discloses a range which touches, overlaps or is within the claimed range, but no specific examples falling within the claimed range are disclosed, a case by case determination must be made as to anticipation. In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with "sufficient specificity to constitute an anticipation under the statute." MPEP § 2131.03 at 2100-72 (August 2001).

The required specificity is lacking from Bieser. The test for "sufficient specificity" is similar to that of "clearly envisaging" a species from a generic teaching. *Id.* The MPEP explains that in evaluating the "clearly envisaging" requirement, "[o]ne may look to preferred embodiments to determine which compounds can be anticipated." MPEP § 2131.02 at 2100-71. Bieser's preferred polymer range is "preferably at least about 10 weight percent" to "more preferably no more than about 30 weight percent." That range falls outside the claimed range of about 36 to 64% polymer. Moreover, all of the specific examples in Bieser use a polymer at 15% by weight or below. This is less than ½ of the range claimed in the present invention. In sum, the following table sets forth Bieser's shortcomings:

<b>Ranges of homogeneous ethylene/<math>\alpha</math>-olefin interpolymer disclosed in Bieser</b>	<b>Relationship of Bieser range to claimed range of about 36 to 64% polymer</b>	<b>Conclusion</b>
at least about 5 to no more	endpoints completely overlap	no anticipation – genus cannot

<b>Ranges of homogeneous ethylene/<math>\alpha</math>-olefin interpolymers disclosed in Bieser</b>	<b>Relationship of Bieser range to claimed range of about 36 to 64% polymer</b>	<b>Conclusion</b>
than about 70%	and fall outside endpoints of claimed range	anticipate a species
at least about 5 to preferably no more than about 50%	overlaps with front end of claimed range	no anticipation because requisite specificity does not exist
at least about 5 to more preferably no more than about 30%	falls completely outside of claimed range	no anticipation because limitation not met
preferably at least about 10 to no more than about 70%	endpoints completely overlap and fall outside endpoints of claimed range	no anticipation – genus cannot anticipate a species
preferably at least about 10 to preferably no more than about 50%	overlaps with front end of claimed range	no anticipation because requisite specificity does not exist
preferably at least about 10 to more preferably no more than about 30%	falls completely outside of claimed range	no anticipation because limitation not met

Bieser does not anticipate the polymer range of any of claims 1-5. Accordingly, Applicant requests that the Bieser anticipation rejection be withdrawn.

## **2. Claim 6**

Claim 6 requires a roofing shingle comprising at least about 36% polyolefin and comprising no more than about 64% filler. The roofing shingle must be less than about an inch thick, between about 3-12 inches wide, and between about 6-24 inches long. Bieser discloses no such roofing shingle.

The Office points to the disclosure of Bieser at col. 8, lines 8-45 for the disclosure of the composition of claim 6, and to col. 11, lines 50-52 for the structure of the roofing shingle. However, these two sections refer to different compositions.

The disclosure at col. 11, lines 50-52 of Bieser relates to "Comparative Example 1," which is directed to a formulation that includes only **15% by weight of a polymer, not at least about 36% polyolefin, as claim 6 requires.** See col. 11, lines 34-44 and Table 2. For at least this reason, Bieser does not anticipate claim 6, and the rejection should be withdrawn.

**C. Claims 1-5 Are Patentable over the Wells Patents**

**1. USPN 5,711,126**

The Office rejects claims 1-5 as being anticipated by Wells (i.e., the '126 patent). The Office states: "Wells discloses a tile formed of a composition mixture of about 36 to 64% polyethylene and about 36 to 64% crushed limestone, col. 7, lines 35-60 and claim 13." First Office Action, page 3. Applicant traverses because the '126 patent does not anticipate claims 1-5 for at least a number of reasons.

First, the '126 patent does not disclose or suggest "about 36-64% filler" as claims 1-5 require. Instead, the '126 patent discloses only preferably about 65 to about 88% filler, more preferably 76 to about 85% filler, and, in an especially preferred embodiment, 80% filler. None of these values falls within the claimed filler range or overlaps it. Thus, there is no anticipation and the rejection should be withdrawn.

Moreover, Applicant distinguished the '126 patent on pages 2-3 of the "Background of the Invention" section:

For instance, U.S. patent No. 5,711,126 discloses that the amount of polymer in the composite to range from about 12 to 35 % and the preferred amount of filler ranges from 65 to 88%.

Although these composite roofing shingles are capable roofing systems, there are some problems. For instance, the large amount of filler causes the product to be excessively heavy while the low amount of polymer reduces flexibility and increases the possibility of cracking and splitting. Accordingly, a need exists to improve composite shingles.

Because Applicant distinguished the '126 patent in this manner, the Office cannot construe claims 1-5 to cover it. *SciMed Life Sys. Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1342-43 (explaining that the patentee's discussion of the disadvantages associated with the prior art and the advantages associated with the patentee's apparatus "supports the district court's conclusion that the claims should not be read so broadly as to encompass the distinguished prior art structure") (a copy of this case is enclosed).

For at least these reasons, the anticipation rejection of claims 1-5 over the '126 patent should be withdrawn.

## 2. USPN 6,112,492

The Office rejects claims 1-5 as being anticipated by Wells et al. (i.e., the '492 patent). The Office states: "Wells et al. discloses a tile formed of a composition mixture of about 36 to 64% polyethylene and about 36 to 64% crushed limestone, col. 6, line 38 to col. 7, line 10. The tile being between about 3-12 inches wide[,] col. 6, lines 27-29." First Office Action, page 2. Applicant traverses because the '492 patent does not anticipate claims 1-5 for at least a number of reasons.

First, the '492 patent does not disclose or suggest "about 36-64% filler" as claims 1-5 require. Instead, just like the '126 patent, the '492 patent discloses only preferably about 65 to about 88% filler, more preferably 76 to about 85% filler, and, in an especially preferred embodiment, 80% filler. None of these values falls within the claimed filler range or overlaps it. Thus, there is no anticipation and the rejection should be withdrawn.

Moreover, Applicant distinguished the relevant substance of the '492 patent by distinguishing the identical substance of the '126 patent on pages 2-3 of the "Background of the Invention" section:

For instance, U.S. patent No. 5,711,126 discloses that the amount of polymer in the composite to range from about 12 to 35 % and the preferred amount of filler ranges from 65 to 88%.

Although these composite roofing shingles are capable roofing systems, there are some problems. For instance, the large amount of filler causes the product to be excessively heavy while the low amount of polymer reduces flexibility and increases the possibility of cracking and splitting. Accordingly, a need exists to improve composite shingles.

Because Applicant distinguished the substance of the '492 patent in this manner, the Office cannot construe claims 1-5 to cover it. *SciMed Life Sys. Inc.*, 242 F.3d at 1342-43.

For at least these reasons, the anticipation rejection of claims 1-5 over the '492 patent should be withdrawn.

**D. Claim 6 Is Patentable over either Wells Patent in View of Thompson et al.**

The Office rejects claim 6 as being obvious over either the '126 patent or the '492 patent in view of USPN 6,253,512 to Thompson et al. Applicant traverses.

Claim 6 requires a roofing shingle comprising at least about 36% polyolefin and comprising no more than about 64% filler. Both Wells patents disclose more than the allowable amount of filler, and were distinguished by Applicant in the Background of this application. Thus, for the reasons discussed above with respect to claims 1-5, the Wells patents fail to teach or suggest the claimed filler range.

Thompson adds nothing to either the '126 patent or the '492 patent that would cure or overcome this deficiency. While Thompson discloses "natural slate tiles [having] dimensions of about 13 inches across (laterally) and about 22 inches long (in the upslope and downslope direction)[,]" it does not teach or suggest the claimed filler range missing from the Wells patents. Thus, the asserted combination does not render claim 6 obvious, and the rejection should be withdrawn.

**E. New Claims 7-18 Are Patentable**

New claims 7-18 are patentable over the cited references. Therefore, they should be allowed.

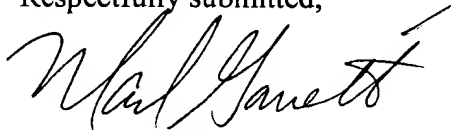
**PETITION FOR EXTENSION OF TIME**

Pursuant to 37 C.F.R. § 1.136(a), Applicant petitions for an extension of time of two months up to and including July 25, 2002 in which to respond to the Office Action dated February 25, 2002. Pursuant to 37 C.F.R. § 1.16 and 1.17, a check in the amount of \$400 is enclosed, which is the process fee for a two-month extension of time. If the check is inadvertently omitted, or should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to the enclosed materials, or should an overpayment be included herein, the Office is authorized to deduct or credit fees from or to Fulbright & Jaworski Deposit Account No.: 50-1212/10106946/MTG.

**F. Conclusion**

Applicant respectfully submits that claims 1-18 are in condition for allowance. Should Examiner Safavi have any questions, comments, or suggestions relating to this application, he is invited to contact the undersigned attorney at (512) 536-3031.

Respectfully submitted,



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**APPENDIX A: CLEAN COPY OF CLAIMS FOR U.S. SERIAL NO. 09/865,403**

1. A composite roofing shingle comprising a mixture of:
  - a. about 36 to 64% polymer; and
  - b. about 36 to 64% filler.
2. A shingle according to Claim 1 where the polymer is a polyolefin.
3. A shingle according to Claim 1 where the polymer is polyethylene.
4. A shingle according to Claim 1 where the filler is an inorganic material.
5. A shingle according to Claim 1 where the filler is crushed limestone.
6. A roofing shingle:
  - a. that is less than an inch thick;
  - b. between about 3-12 inches wide;
  - c. between about 6-24 inches long;
  - d. comprising at least about 36% polyolefin; and
  - e. comprising no more than about 64% filler.
7. (New) A shingle according to Claim 1 where the filler is slate.
8. (New) A shingle according to Claim 1 where the filler is shale.
9. (New) A shingle according to Claim 1 comprising:
  - a. 40% polymer; and
  - b. 60% filler.
10. (New) A shingle according to Claim 1 where the shingle is configured to have the shape of a wood shake shingle.
11. (New) A shingle according to Claim 1 where the shingle is configured to have the shape of slate.



12. (New) A shingle according to Claim 1 where the shingle has one side that has been molded to simulate shake.
13. (New) A shingle according to Claim 1 where the shingle has one side that has been molded to simulate slate.
14. (New) The roofing shingle of claim 6, where:
- d. comprises 40% polyethylene; and
  - e. comprises 60% filler.
15. (New) The roofing shingle of claim 6, where the shingle is configured to have the shape of a wood shake shingle.
16. (New) The roofing shingle of claim 6, where the shingle is configured to have the shape of slate.
17. (New) The roofing shingle of claim 6, where the shingle has one side that has been molded to simulate shake.
18. (New) The roofing shingle of claim 6, where the shingle has one side that has been molded to simulate slate.